

	A	B	C	D	E	F	G	H	I	J	K	L											
1	UCL Statistics for Data Sets with Non-Detects																						
2																							
3	User Selected Options																						
4	Date/Time of Computation	9/22/2014 12:37:22 PM																					
5	From File	WorkSheet.xls																					
6	Full Precision	OFF																					
7	Confidence Coefficient	95%																					
8	Number of Bootstrap Operations	2000																					
9																							
10	Arclors																						
11																							
12	General Statistics																						
13	Total Number of Observations	44		Number of Distinct Observations				37															
14	Number of Detects	19		Number of Non-Detects				25															
15	Number of Distinct Detects	18		Number of Distinct Non-Detects				19															
16	Minimum Detect	4.95		Minimum Non-Detect				1.3															
17	Maximum Detect	20.45		Maximum Non-Detect				5.2															
18	Variance Detects	17.2		Percent Non-Detects				56.82%															
19	Mean Detects	9.097		SD Detects				4.147															
20	Median Detects	7.7		CV Detects				0.456															
21	Skewness Detects	1.514		Kurtosis Detects				1.899															
22	Mean of Logged Detects	2.127		SD of Logged Detects				0.395															
23																							
24	Normal GOF Test on Detects Only																						
25	Shapiro Wilk Test Statistic	0.827		Shapiro Wilk GOF Test																			
26	5% Shapiro Wilk Critical Value	0.901		Detected Data Not Normal at 5% Significance Level																			
27	Lilliefors Test Statistic	0.253		Lilliefors GOF Test																			
28	5% Lilliefors Critical Value	0.203		Detected Data Not Normal at 5% Significance Level																			
29	Detected Data Not Normal at 5% Significance Level																						
30																							
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs																						
32	Mean	4.67		Standard Error of Mean				0.726															
33	SD	4.684		95% KM (BCA) UCL				5.861															
34	95% KM (t) UCL	5.89		95% KM (Percentile Bootstrap) UCL				5.859															
35	95% KM (z) UCL	5.864		95% KM Bootstrap t UCL				6.046															
36	90% KM Chebyshev UCL	6.847		95% KM Chebyshev UCL				7.833															
37	97.5% KM Chebyshev UCL	9.202		99% KM Chebyshev UCL				11.89															
38																							
39	Gamma GOF Tests on Detected Observations Only																						
40	A-D Test Statistic	0.805		Anderson-Darling GOF Test																			
41	5% A-D Critical Value	0.742		Detected Data Not Gamma Distributed at 5% Significance Level																			
42	K-S Test Statistic	0.212		Kolmogorov-Smirnov GOF																			
43	5% K-S Critical Value	0.199		Detected Data Not Gamma Distributed at 5% Significance Level																			
44	Detected Data Not Gamma Distributed at 5% Significance Level																						
45																							
46	Gamma Statistics on Detected Data Only																						
47	k hat (MLE)	6.357		k star (bias corrected MLE)				5.388															
48	Theta hat (MLE)	1.431		Theta star (bias corrected MLE)				1.688															
49	nu hat (MLE)	241.6		nu star (bias corrected)				204.7															
50	MLE Mean (bias corrected)	9.097		MLE Sd (bias corrected)				3.919															
51																							
52	Gamma Kaplan-Meier (KM) Statistics																						
53	k hat (KM)	0.994		nu hat (KM)				87.48															
54	Approximate Chi Square Value (87.48, α)	66.92		Adjusted Chi Square Value (87.48, β)				66.31															
55	5% Gamma Approximate KM-UCL (use when n>=50)	6.105		95% Gamma Adjusted KM-UCL (use when n<50)				6.161															
56																							
57	Gamma ROS Statistics using Imputed Non-Detects																						
58	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs																						
59	GROS may not be used when kstar of detected data is small such as < 0.1																						
60	For such situations, GROS method tends to yield inflated values of UCLs and BTBs																						
61	For gamma distributed detected data, BTBs and UCLs may be computed using gamma distribution on KM estimates																						
62	Minimum	0.01		Mean				4.051															

